Page 2 Dkt: 303.865US1

IN THE CLAIMS

- (Original) A method for forming a film on a substrate comprising:
 activating a gas precursor to deposit a material on the substrate by irradiating the gas
 precursor with electromagnetic energy at a frequency tuned to an absorption frequency of the gas
 precursor.
- 2. (Original) The method of claim 1, wherein the method further includes adjusting a source for the electromagnetic energy to provide the electromagnetic energy at a select frequency tuned to a specific absorption frequency of the gas precursor.
- 3. (Original) The method of claim 2, wherein adjusting a source for the electromagnetic energy includes switching laser light from an output of one laser in a laser array to an output of another laser in the laser array.
- 4. (Original) The method of claim 2, wherein adjusting a source for the electromagnetic energy includes switching laser light from an output of one diode laser in a diode laser array to an output of another diode laser in the diode laser array.
- 5. (Original) The method of claim 2, wherein adjusting a source for the electromagnetic energy includes tuning a tunable laser to the select frequency.
- 6. (Original) The method of claim 1, wherein the method further includes controlling a location at which the electromagnetic energy interacts with the gas precursor.
- 7. (Original) The method of claim 6, wherein controlling a location at which the electromagnetic energy interacts with the gas precursor includes rastering the electromagnetic energy across a portion of a surface of the substrate.

Page 3 Dkt: 303.865US1

8. (Original) The method of claim 1, wherein activating a gas precursor includes breaking specific bonds in the gas precursor.

- 9. (Original) The method of claim 1, wherein activating a gas precursor includes decomposing the gas precursor into two of more chemical vapors.
- 10. (Original) The method of claim 1, wherein the method further includes controlling environmental parameters and a location at which the electromagnetic energy irradiates the gas precursor such that activating the gas precursor occurs at a distance from the substrate that is within a mean free path of the activated gas precursor.
- 11. (Original) The method of claim 1, wherein the method is performed as a part of a chemical vapor deposition process.
- 12. (Original) The method of claim 1, wherein the method is performed as a part of an atomic layer deposition process.
- 13. (Original) A method for forming a film on a substrate comprising: selecting an absorption frequency of a molecule of a gas reactant; setting a select frequency for a laser source correlated to the absorption frequency; illuminating the gas reactant using the laser source to deposit a material on the substrate.
- 14. (Original) The method of claim 13, wherein setting a select frequency for a laser source includes selecting a laser in a laser array to provide the laser source having the select frequency.
- 15. (Original) The method of claim 13, wherein setting a select frequency for a laser source includes selecting a diode laser in a diode laser array to provide the laser source having the select frequency.

- 16. (Original) The method of claim 13, wherein setting a select frequency for a laser source includes tuning a tunable laser to the select frequency.
- 17. (Original) The method of claim 13, wherein the method further includes controlling a location at which radiation from the laser source illuminates the gas reactant.
- 18. (Original) The method of claim 17, wherein controlling a location at which radiation from the laser source illuminates the gas reactant includes rastering the laser beam across a portion of a surface of the substrate.
- 19. (Original) The method of claim 13, wherein the method further includes regulating environmental parameters and a location at which the laser source illuminates the gas reactant to activate the gas reactant at a distance from the substrate that is within a mean free path of the activated gas reactant.
- 20. (Original) A method for forming a film on a substrate comprising: measuring absorption frequencies of one or more molecules of a gas flow; selecting an absorption frequency at which to activate a gas precursor in the gas flow; triggering a laser of a laser array, the triggered laser having a frequency corresponding to the selected absorption frequency; and

exposing the gas flow to a laser beam from the triggered laser to deposit a material on the substrate.

- 21. (Original) The method of claim 20, wherein triggering a laser of a laser array includes activating a diode laser in a diode laser array.
- 22. (Original) The method of claim 20, wherein triggering a laser of a laser array includes tuning a tunable laser to the select frequency.

Serial Number: 10/683,806 Filing Date: October 10, 2003

Title: LASER ASSISTED MATERIAL DEPOSITION

Page 5 Dkt: 303.865US1

23. (Original) The method of claim 20, wherein the method further includes controlling a location at which the gas flow is exposed to the laser beam.

- 24. (Original) The method of claim 23, wherein controlling a location at which the gas precursor is exposed to the laser beam includes rastering the laser beam across a portion of a surface of the substrate.
- 25. (Original) The method of claim 20, wherein the method further includes managing environmental parameters and a location at which the laser beam from the triggered laser illuminates the gas flow to activate the gas precursor at a distance from the substrate that is within a mean free path of the activated gas precursor.
- 26. (Withdrawn) A method for forming an electronic device comprising: providing a substrate;

forming circuits on the substrate, wherein forming the circuits includes depositing a material by irradiating a gas precursor with electromagnetic energy at a frequency tuned to an absorption frequency of the gas precursor to activate the gas precursor.

- 27. (Withdrawn) The method of claim 26, wherein the method further includes adjusting a source for the electromagnetic energy to provide the electromagnetic energy at a select frequency tuned to a specific absorption frequency of the gas precursor.
- 28. (Withdrawn) The method of claim 27, wherein adjusting a source for the electromagnetic energy includes switching laser light from an output of one laser in a laser array to an output of another laser in the laser array.

RESPONSE TO RESTRICTION REQUIREMENT

Serial Number: 10/683,806 Filing Date: October 10, 2003

Title: LASER ASSISTED MATERIAL DEPOSITION

Page 6 Dkt: 303.865US1

29. (Withdrawn) The method of claim 27, wherein adjusting a source for the electromagnetic

energy includes switching laser light from an output of one diode laser in a diode laser array to an

output of another diode laser in the diode laser array.

30. (Withdrawn) The method of claim 27, wherein adjusting a source for the electromagnetic

energy includes tuning a tunable laser to the select frequency.

31. (Withdrawn) The method of claim 26, wherein the method further includes controlling a

location at which the electromagnetic energy interacts with the gas precursor.

32. (Withdrawn) The method of claim 31, wherein controlling a location at which the

electromagnetic energy interacts with the gas precursor includes rastering the electromagnetic

energy across a portion of a surface of the substrate.

33. (Withdrawn) The method of claim 26, wherein activating a gas precursor includes

breaking specific bonds in the gas precursor.

34. (Withdrawn) The method of claim 26, wherein activating a gas precursor includes

decomposing the gas precursor into two of more chemical vapors.

35. (Withdrawn) The method of claim 26, wherein the method further includes managing

environmental parameters and a location at which the electromagnetic energy irradiates the gas

precursor such that activating the gas precursor occurs at a distance from the substrate that is

within a mean free path of the activated gas precursor.

36. (Withdrawn) The method of claim 26, wherein the method is performed as a part of a

chemical vapor deposition process.

Page 7 Dkt: 303.865US1

- 37. (Withdrawn) The method of claim 26, wherein the method is performed as a part of an atomic layer deposition process.
- 38. (Withdrawn) The method of claim 26, wherein the method further includes forming the electronic device as an integrated circuit.
- 39. (Withdrawn) The method of claim 26, wherein the method further includes forming the electronic device as a memory device.
- 40. (Withdrawn) A method for forming an electronic system comprising: providing a processor;

coupling a processor to a memory, wherein at least one of the processor or the memory are formed by a method including depositing a material by illuminating a gas reactant with a laser beam having a frequency targeted to an absorption frequency of the gas reactant to activate the gas precursor.

- 41. (Withdrawn) The method of claim 40, wherein the method further includes adjusting the laser beam to a select frequency tuned to a target absorption frequency of the gas precursor.
- 42. (Withdrawn) The method of claim 41, wherein adjusting the laser beam to a select frequency includes switching the laser beam from an output of one laser in a laser array to an output of another laser in the laser array.
- 43. (Withdrawn) The method of claim 41, wherein adjusting the laser beam to a select frequency includes switching the laser beam from an output of one diode laser in a diode laser array to an output of another diode laser in the diode laser array.
- 44. (Withdrawn) The method of claim 41, wherein adjusting the laser beam to a select frequency includes tuning a tunable laser to the select frequency.

RESPONSE TO RESTRICTION REQUIREMENT

Serial Number: 10/683,806

Filing Date: October 10, 2003

Title: LASER ASSISTED MATERIAL DEPOSITION

Page 8 Dkt: 303.865US1

45. (Withdrawn) The method of claim 40, wherein the method further includes controlling a

location at which the laser beam interacts with the gas precursor.

46. (Withdrawn) The method of claim 45, wherein controlling a location at which the laser

beam interacts with the gas reactant includes rastering the laser beam across a portion of a

surface of the substrate.

47. (Withdrawn) The method of claim 40, wherein activating a gas reactant includes

breaking specific bonds in the gas precursor.

48. (Withdrawn) The method of claim 40, wherein activating a gas reactant includes

decomposing the gas reactant into two of more chemical vapors.

49. (Withdrawn) The method of claim 40, wherein the method further includes controlling

environmental parameters and a location at which the laser beam illuminates the gas reactant

such that activating the gas reactant occurs at a distance from the substrate that is within a mean

free path of the activated gas precursor.

50. (Withdrawn) The method of claim 40, wherein the method is performed as a part of a

chemical vapor deposition process.

51. (Withdrawn) The method of claim 40, wherein the method is performed as a part of an

atomic layer deposition process.

52.-78. (Cancelled)